Introduction

Purpose

This document provides instructions to configure a Linksys® RV042 10/100 4-port VPN Router (Firewall Router) for use with the Passport® system.

IMPORTANT INFORMATION
The configuration and service procedures detailed in this document are notably different from previous router installation instructions. These changes are necessary to support a PA-DSS/PCI-DSS-compliant architecture. It is important to thoroughly read these prior to performing any configuration (for example, changing router passwords), to prevent site personnel from having to re-enter their secure passwords.

Intended Users

This manual is intended for Authorized Service Contractors (ASCs)/Customer Specified Contractors (CSCs) who are Passport-certified and install Passport V8.02 systems.

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Required Tools

The following tools are required for configuration of the Firewall Router:

- Passport Server or Laptop
- CAT-5 Modular Cable (Q13482-XX or Q13850-XX)

Related Documents

IMPORTANT INFORMATION

Ensure that you review all related documentation before installation. Additionally, the "Installation Instructions" section within the appropriate customer-specific network addendum must be reviewed and be in your possession at the time of installation. If present, this section will contain any additional requirements necessary to complete Passport system configuration and installation.

Document Number	Title	GOLD Library
MDE-3620	Point Of Sale Site Preparation Manual	Site Preparation
MDE-3816	Passport Hardware Start-up and Service Manual	• Passport • Service Manual
MDE-4743	Passport PA-DSS Implementation Guide	Passport

Abbreviations and Acronyms

Term	Description
ASC	Authorized Service Contractor
CSC	Customer Specified Contractor
FTP	File Transfer Protocol
IP	Internet Protocol
ISP	Internet Service Provider
LAN	Local Area Network
POS	Point Of Sale
WAN	Wide Area Network

Technical Support

If you need to contact the Gilbarco® Veeder-Root® Technical Support, call 1-800-743-7501.

Configuring Your Laptop

The procedures below must be used to program your laptop, to use a static Internet Protocol (IP) address to communicate on the Firewall Router's Local Area Network (LAN).

Note: The references and screenshots provided in the document may vary slightly based on the hardware and version of Windows® that is used.

If the Passport Server is being used to configure the Firewall Router, proceed to the "Configuring the Firewall Router" on page 6.

IMPORTANT INFORMATION
This procedure requires familiarity with your laptop's hardware and software. To successfully utilize these steps: • Ensure that you have a functional Ethernet® Adapter. • Disable any native or third-party Firewall applications.

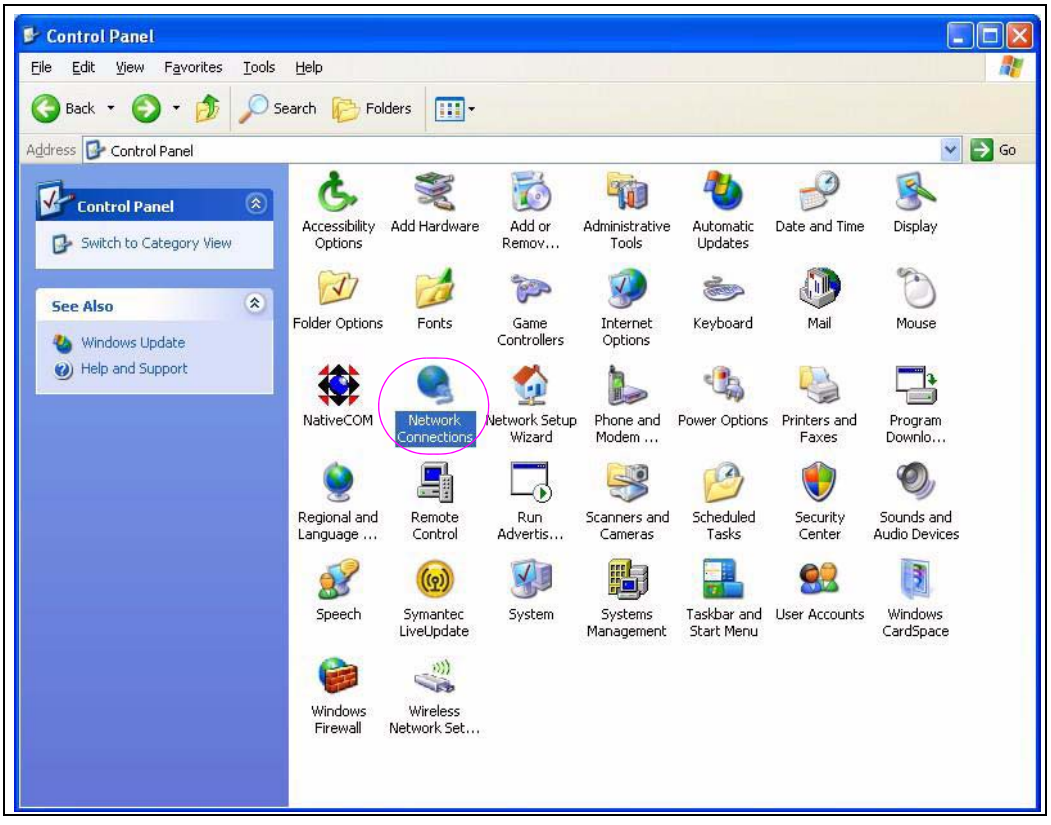
Accessing the Control Panel

To access the Control Panel, proceed as follows:

1 Click **Start** > **Run**. The Run window appears.

2 Type **Control** in the "Open" field and press **Enter**. The Control Panel window appears.

Figure 1: Control Panel



Changing Network Connection Properties

To change the Network Connection Properties, proceed as follows:

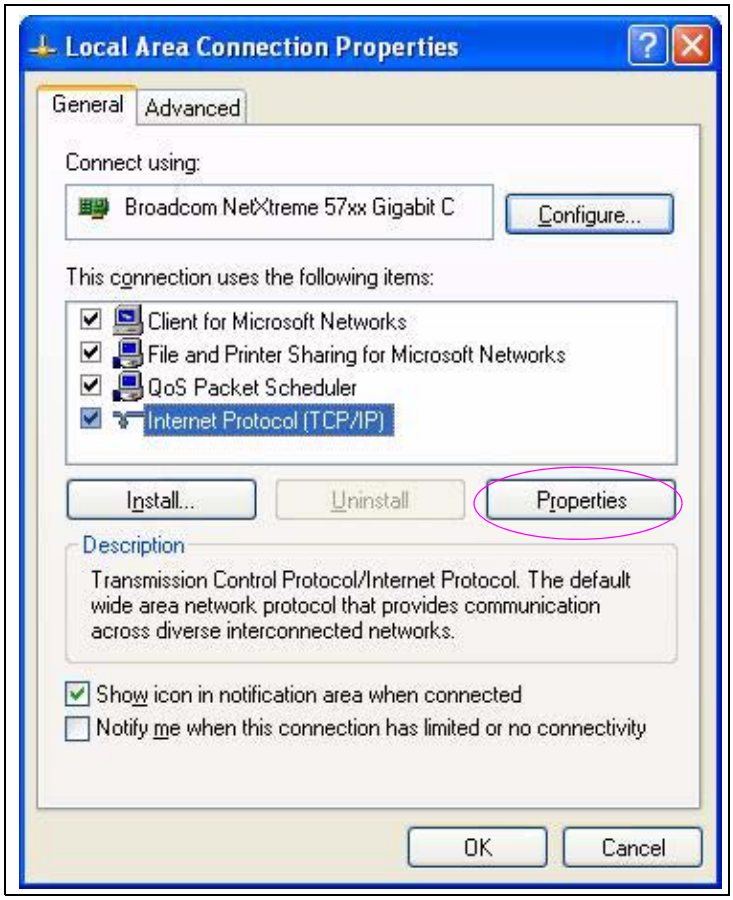
1 Double-click the **Network Connections** icon. The Network Connections window appears.

Figure 2: Network Connections Window

2 Locate the LAN connection used by the laptop's Ethernet Adapter.
Note: The name of the connection may vary based on the hardware configuration (refer to Figure 2).

3 Right-click the appropriate LAN connection and select **Properties**. The Local Area Connection Properties window appears.

Figure 3: Internet Protocol Option



4 Select **Internet Protocol (TCP/IP)** from the list.

5 Click **Properties**.

IMPORTANT INFORMATION
Make a note of the current IP address programming. You may need to refer to these settings to change the Ethernet adapter settings for normal usage.

6 Select **Use the following IP address**.

7 Enter the following values in the Internet Protocol (TCP/IP) Properties window.
- IP Address: 10.5.48.18
- Subnet Mask: 255.255.255.192
- Default Gateway: 10.5.48.1

IMPORTANT INFORMATION

10.5.48.18 must be used for your laptop to prevent potential address conflicts. Improper IP address configuration may result in a site down condition when all devices are connected to the router.

8 Click **OK** when programming is complete.

Configuring the Firewall Router

IMPORTANT INFORMATION

The Passport system's architecture now incorporates the use of a Firewall Router to manage traffic and adhere to compliance standards. The Firewall Router **MUST** be used to ensure appropriate communication for LAN and Wide Area Network (WAN) devices. Failure to install the Firewall Router as per Gilbarco requirements will impact communication and compromise on site compliance.

Certain configurations, such as remote access through a WAN or use of dual routers, may require additional installation precautions for compliance. Refer to MDE-4743 Passport PA-DSS Implementation Guide and Appendices A, B, C and D of this document for additional installation recommendations.

Preconfigured routers from Gilbarco have been updated to ensure high-level security and enforce a strong password for accessing the router. The default password of the previous router will no longer allow access to the router configuration. The following procedure must be used to initially access the router and configure it as required for a Passport system's installation.

1 Connect the device (either Passport Server or laptop) that you will use, to configure the router to Port 1 of the Firewall Router.

IMPORTANT INFORMATION

Due to enhanced security, the appropriate port **MUST** be used for either the Passport Server, or a laptop. Failure to connect to this port will result in lack of TCP/IP communication.

2 Open **Internet Explorer** on the Passport Server (or laptop).

3 Type **10.5.48.1** in the address bar and press **Enter**. An Enter Network Password dialog box appears.

4 Enter **admin** as the User Name and **GVR09RV042** as the Password.

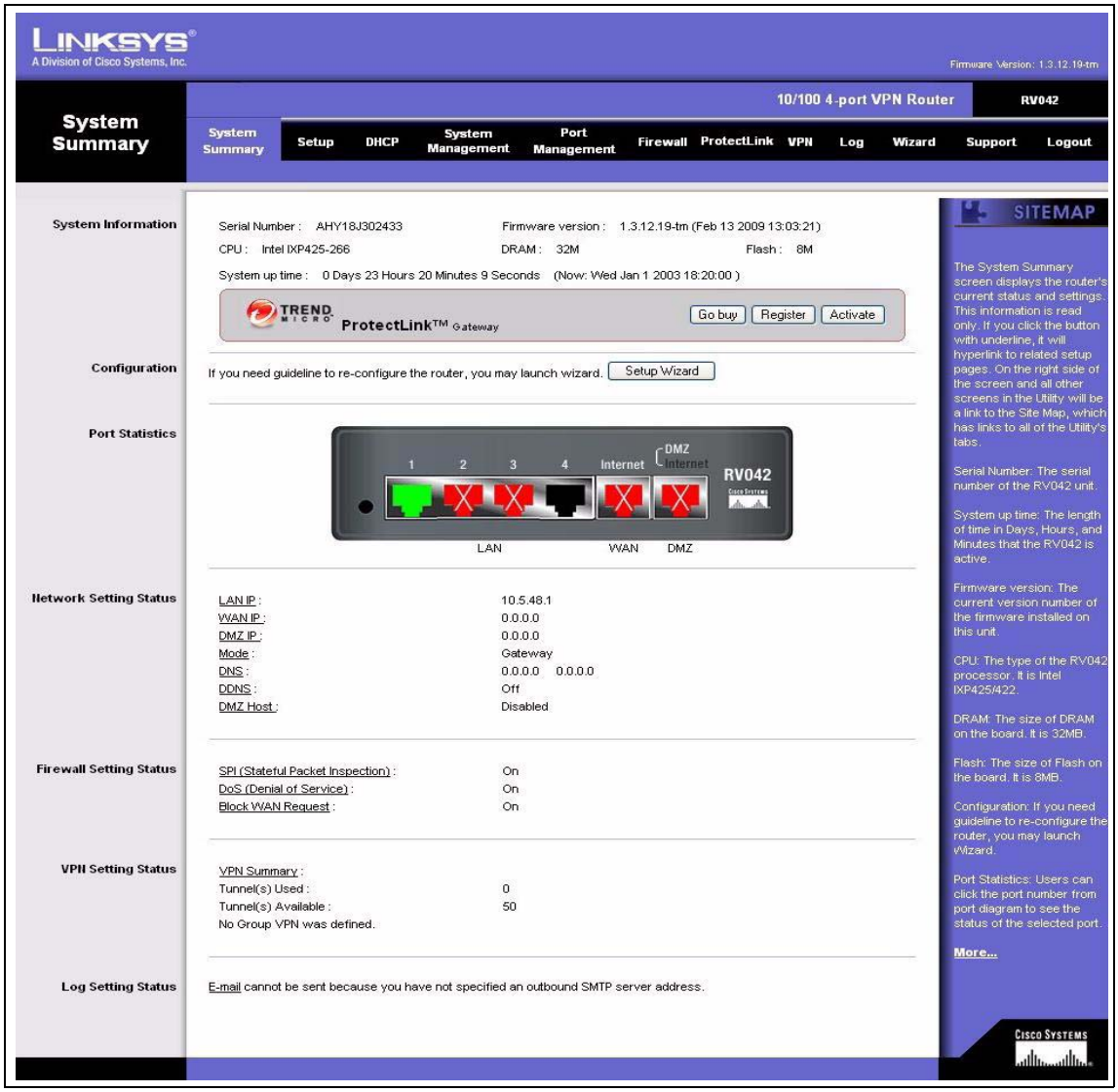
IMPORTANT INFORMATION

The password provided is configured by default by Gilbarco. When the router configuration is complete, the merchant may choose to change the router password to further adhere with PCI-DSS compliance standards.

If the merchant requires to change the Firewall Router password, refer to "Changing the Firewall Router Password" on page 16. If the site chooses to change this password, it must also be written on the Security Manager report and maintained only by the appropriate site staff. Refer to MDE-4743 Passport PA-DSS Implementation Guide for additional information regarding the Security Manager report.

The router System Summary window appears.

Figure 4: System Summary


LINKSYS
A Division of Cisco Systems, Inc.
Firmware Version: 1.3.12.19-tm
10/100 4-port VPN Router
RV042
System Summary
System Summary
Setup
DHCP
System Management
Port Management
Firewall
ProtectLink
VPN
Log
Wizard
Support
Logout
System Information
Serial Number : AHY18J302433
Firmware version : 1.3.12.19-tm (Feb 13 2009 13:03:21)
CPU : Intel IXP425-266
DRAM : 32M
Flash : 8M
System up time : 0 Days 23 Hours 20 Minutes 9 Seconds (Now: Wed Jan 1 2003 18:20:00)
TREND MICRO ProtectLink™ Gateway
Go buy
Register
Activate
Configuration
If you need guideline to re-configure the router, you may launch wizard.
Setup Wizard
Port Statistics
1
2
3
4
Internet
DMZ
Internet
RV042
LAN
WAN
DMZ
Network Setting Status
LAN IP : 10.5.48.1
WAN IP : 0.0.0.0
DMZ IP : 0.0.0.0
Mode : Gateway
DNS : 0.0.0.0 0.0.0.0
DDNS : Off
DMZ Host : Disabled
Firewall Setting Status
SPI (Stateful Packet Inspection) : On
DoS (Denial of Service) : On
Block WAN Request : On
VPN Setting Status
VPN Summary :
Tunnel(s) Used : 0
Tunnel(s) Available : 50
No Group VPN was defined.
Log Setting Status
E-mail cannot be sent because you have not specified an outbound SMTP server address.
SITEMAP
The System Summary screen displays the router's current status and settings. This information is read only. If you click the button with underline, it will hyperlink to related setup pages. On the right side of the screen and all other screens in the Utility will be a link to the Site Map, which has links to all of the Utility's tabs.
Serial Number: The serial number of the RV042 unit.
System up time: The length of time in Days, Hours, and Minutes that the RV042 is active.
Firmware version: The current version number of the firmware installed on this unit.
CPU: The type of the RV042 processor. It is Intel IXP425/422.
DRAM: The size of DRAM on the board. It is 32MB.
Flash: The size of Flash on the board. It is 8MB.
Configuration: If you need guideline to re-configure the router, you may launch Wizard.
Port Statistics: Users can click the port number from port diagram to see the status of the selected port.
More...
Cisco Systems

5 Click the **Setup** tab and configure the values for LAN settings as shown in Figure 5.

Figure 5: Setup Tab

Note: The WAN Connection Type settings are provided as an example only.

IMPORTANT INFORMATION
The Firewall Router will be preconfigured with the necessary LAN Setting configuration, for use with the Passport Point Of Sale (POS) system. This configuration includes multiple subnet configuration to allow communication to the Enhanced Dispenser Hub. Default configuration for the LAN and DMZ must **NOT** be changed, else this could result in a site down condition.

6 If the Internet port is being used, settings for WAN Connection Type must be programmed as per information from the customer-specific programming detailed in "Appendix D: Customer-specific Access Programming" on page 29, credit network, or third-party device provider.

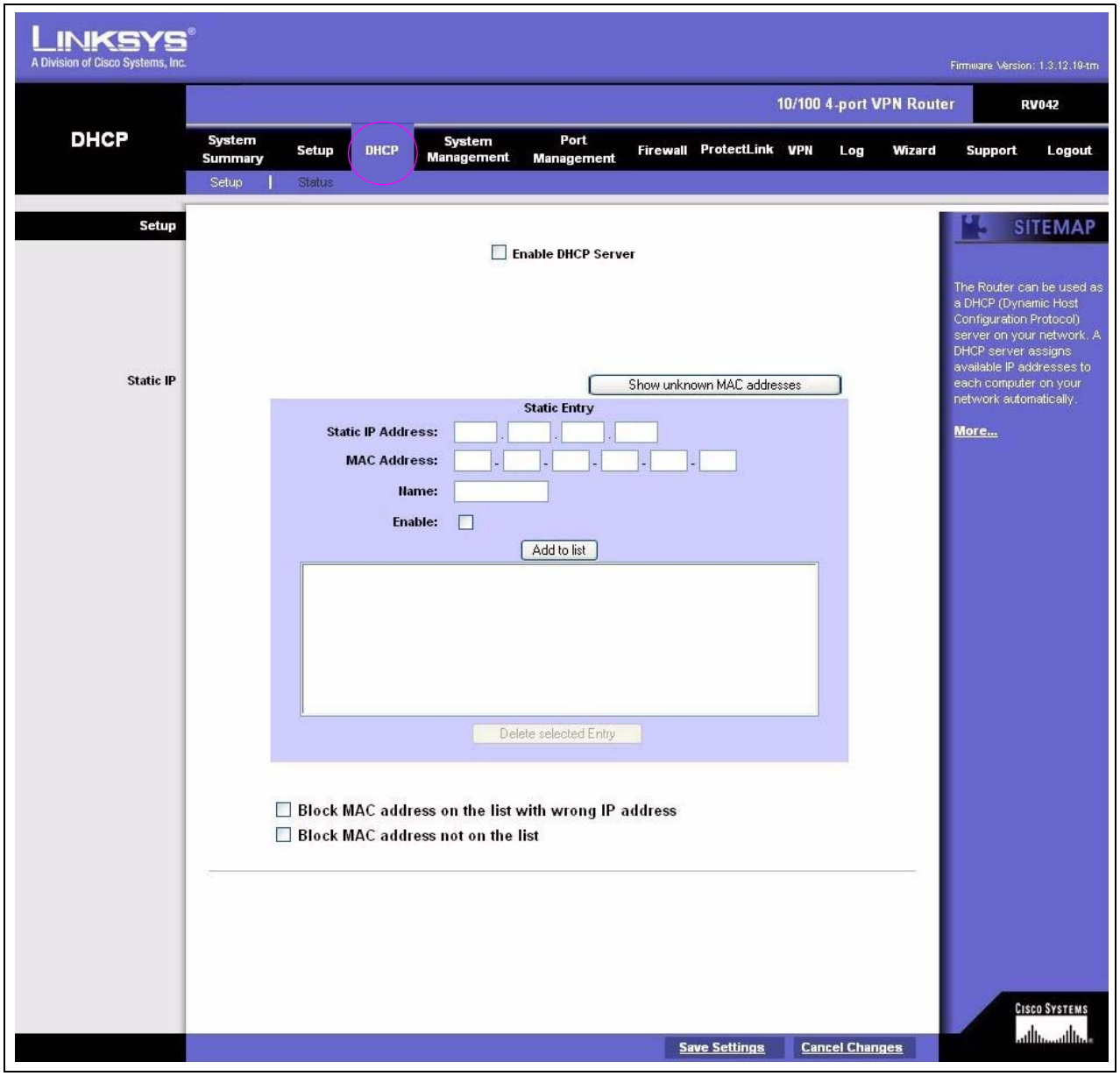
a Make a note of the values provided for the following IP addresses. These entries will be required later for router configuration:

A = WAN IP Address
B = Default Gateway Address

b Make the required changes to the WAN Connection Type configuration and select **Save Settings**.

7 Click the **DHCP** tab. DHCP will be disabled by default, and **must** be enabled if the site has Passport Clients. If the site has at least one Passport Client, the start range must be configured as 8. The end range must be limited to the number of Passport Clients configured on the system (for example, for a site with one Server and two Clients, the DHCP range start value would be 8 and the DHCP range end would be 9).

Figure 6: DHCP Window



IMPORTANT INFORMATION

DHCP addresses are tied to Firewall Access Rules. Setting the Range Start and Range End values outside of the range 8 - 14 may result in connection and processing issues with Passport Clients outside that range, and could result in a site down condition. The 10.5.48.8 - 10.5.48.14 range is reserved for Passport Clients.

Third-party devices must be configured for static IP addresses within the 10.5.60.X subnet. A table listing IP assignments is provided in "IP Address Assignments" on page 17.

8 Click the **Save Settings** tab when complete.

9 Click the **Port Management** tab. The Gilbarco default configuration will have only LAN Port 1 and LAN Port 4 enabled. Required ports must be enabled by deselecting the checkbox in the Disable column.

IMPORTANT INFORMATION

Additional ports must be activated ONLY as required by the site's LAN requirements (for example, if a Combo and two Clients are in use, then two additional open LAN ports will be required). Only Passport Clients must be considered when enabling or disabling ports.

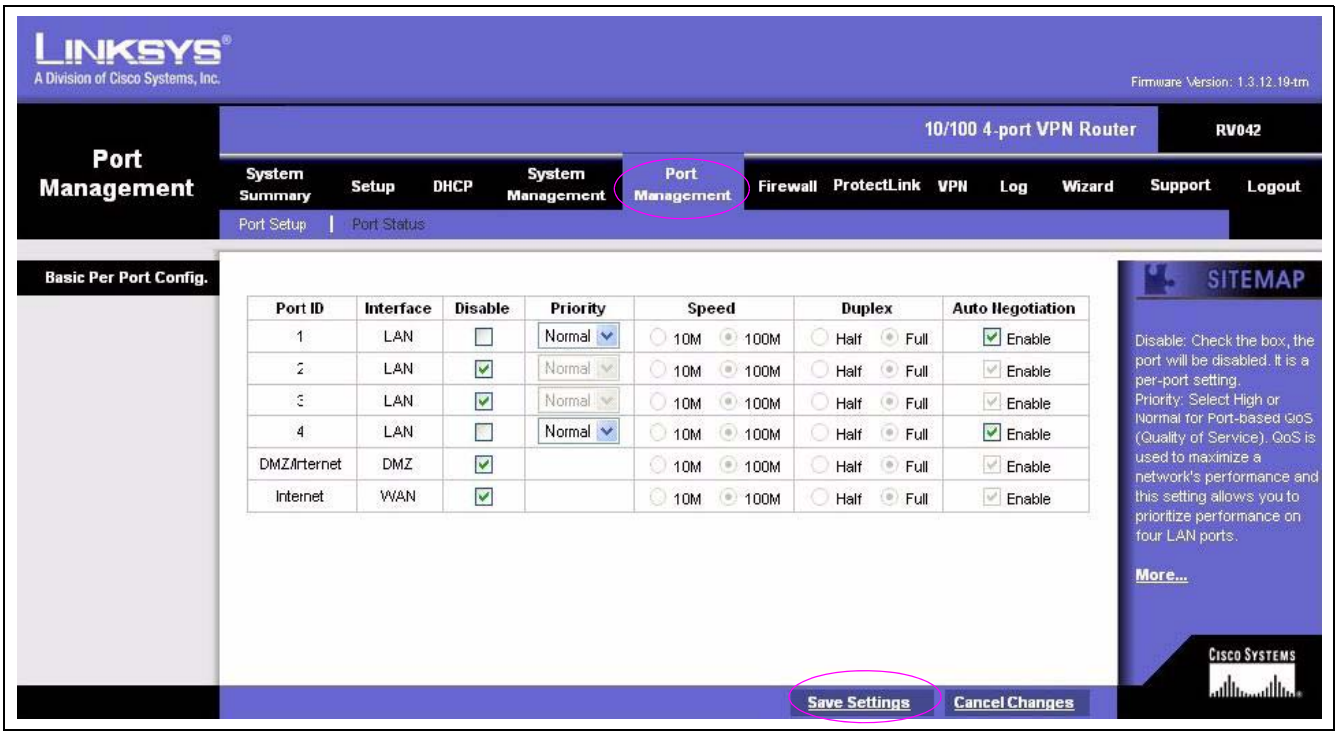
If more than two additional LAN ports are required, it is necessary to install an additional LAN hub/switch (Q13708-01A). Refer to "Appendix A: Installing an Additional LAN Hub/ Switch" on page 19.

For existing sites, it is also possible to reprogram the currently installed Linksys Router (Q13708-05B) as an expansion device on the LAN. Refer to "Appendix B: Reprogramming a Linksys V3 Router for LAN Expansion" on page 21.

All third-party devices (for example, Back Office Systems, IP-based security camera systems, Loyalty Servers) must be connected to the DMZ. Refer to "Reprogramming a Linksys V3 Router for Expansion on the Third-party DMZ (10.5.60.X)" on page 23. Improper port configuration may result in a site down condition.

Other than the Disable column, do not change the other settings on this window. Retain the default settings.

Figure 7: Port Management


LINKSYS
A Division of Cisco Systems, Inc.
Firmware Version: 1.3.12.19-tm
Port Management
10/100 4-port VPN Router
RV042
System Summary
Setup
DHCP
System Management
Port Management
Firewall
ProtectLink
VPN
Log
Wizard
Support
Logout
Port Setup | Port Status
Basic Per Port Config.
Port ID | Interface | Disable | Priority | Speed | Duplex | Auto Negotiation
1 LAN Normal 10M 100M Half Full Enable
2 LAN Normal 10M 100M Half Full Enable
3 LAN Normal 10M 100M Half Full Enable
4 LAN Normal 10M 100M Half Full Enable
DMZ/Internet DMZ 10M 100M Half Full Enable
Internet WAN 10M 100M Half Full Enable
SITEMAP
Disable: Check the box, the port will be disabled. It is a per-port setting.
Priority: Select High or Normal for Port-based QoS (Quality of Service). QoS is used to maximize a network's performance and this setting allows you to prioritize performance on four LAN ports.
More...
Cisco Systems
Save Settings
Cancel Changes

The Internet port must only be enabled if the site is using an IP-based payment network.

10 Click the **Save Settings** tab when complete.

11 If customer-specific access rules are required, proceed to step 12. Refer to "Appendix D: Customer-specific Access Programming" on page 29 for additional details. If no customer-specific access rules are required, skip to step 14.

12 Click the **Firewall** tab. Select **Access Rules**.

IMPORTANT INFORMATION
Default access rules are required for normal system operation and must not be modified in any way by an ASC or customer.

13 Set the customer-specific access rules as specified in "Appendix D: Customer-specific Access Programming" on page 29.

14 Determine whether the site has any additional advanced routing requirements (for example, a Loyalty Server that needs to go out over the internet). Programming must be made at this time, as per the procedures in "Appendix C: Firewall Router Advanced Routing and Secondary Router Programming for WAN Traffic" on page 26 and MDE-4743 Passport PA-DSS Implementation Guide.

IMPORTANT INFORMATION

It is important to determine whether there are any additional advanced routing needs at this time. If there are additional requirements that are determined after configuration has been exported, this will require repetition of several steps within this procedure.

Advanced Routing and Secondary Router Programming for WAN traffic must be performed as per the procedures in "Appendix C: Firewall Router Advanced Routing and Secondary Router Programming for WAN Traffic" on page 26 and in compliance with PA-DSS standards.

Exporting a Backup of Router Configuration

The Firewall Router supports the ability to export and import configuration files. This function must be used to assist in system recovery, new installations, and router replacements.

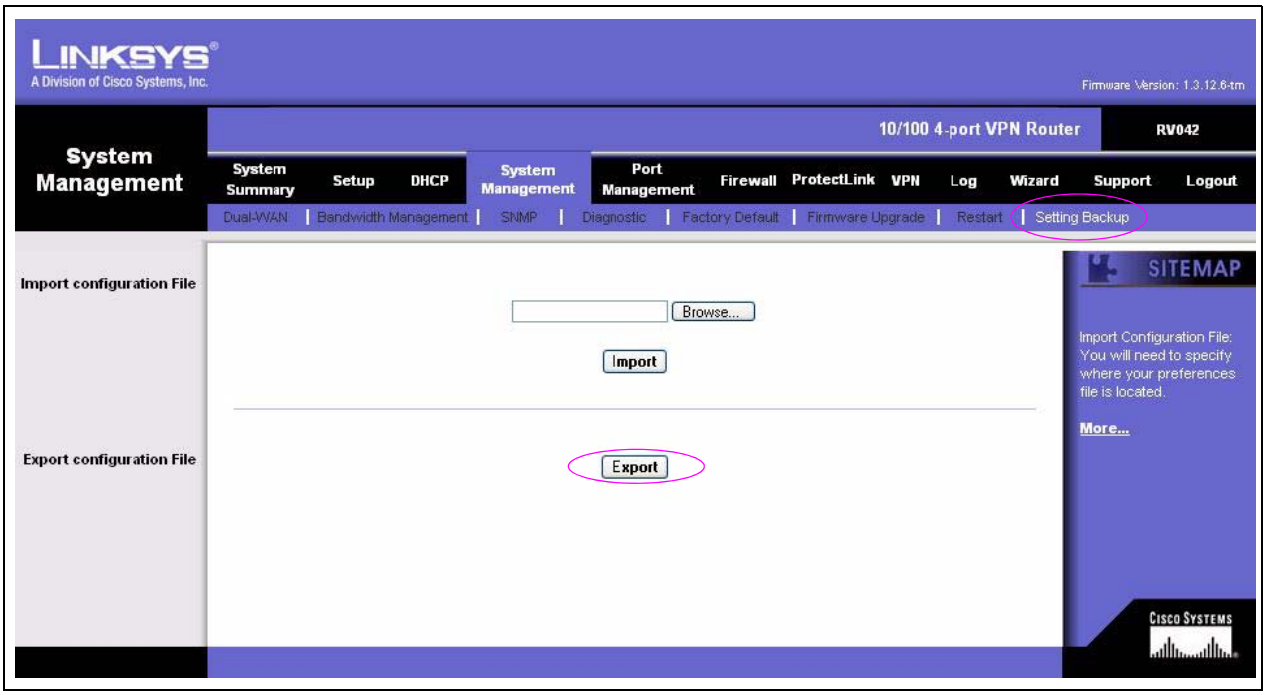
IMPORTANT INFORMATION

Exporting router configuration must occur **ONLY** at this point of configuration. To adhere with compliance requirements, the router configuration must **NOT** be exported after the site has changed the administrator password.

To export the configuration that has been programmed, proceed as follows:

1 Click the **System Management** tab and select **Setting Backup**.

Figure 8: System Management



2 Click **Export**. The File Download window with the message, “Do you want to save this file?” appears.

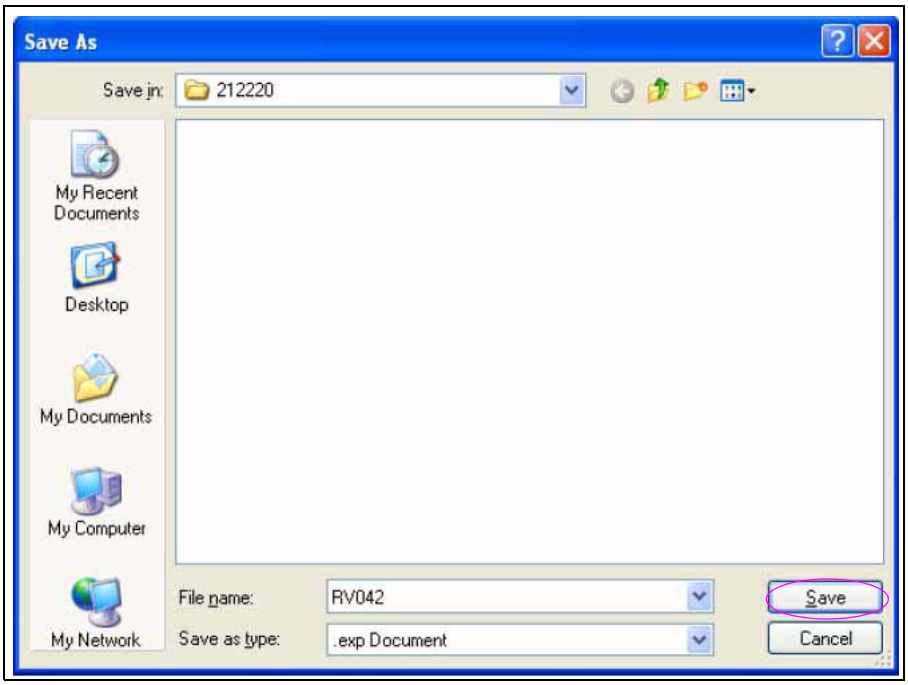
Figure 9: File Download Window

File Download
Do you want to save this file?
Name: RV042.exp
Type: Unknown File Type
From: 10.5.48.1
Save
Cancel
While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not save this file. What's the risk?

3 Click **Save**.

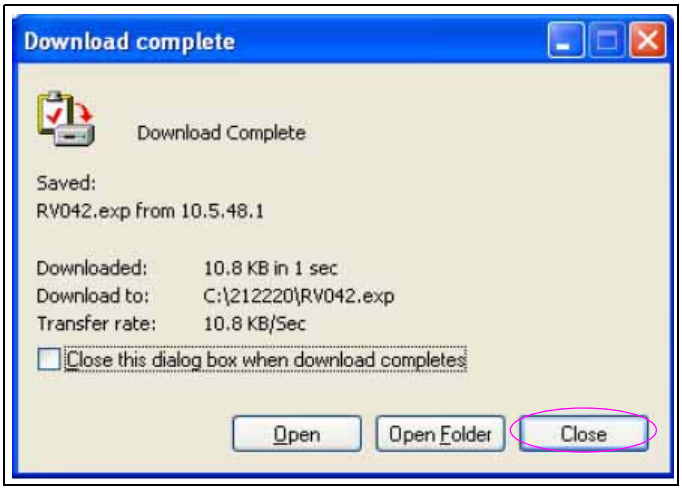
4 Select a location to save the router configuration file. This may be stored within a device at the location, such as a folder on the D: drive on the Passport Server or an external media provided by the merchant.

Figure 10: Save As Window



5 Click **Save**. The Download Complete window appears.

Figure 11: Download Complete Window



6 Click **Close**.

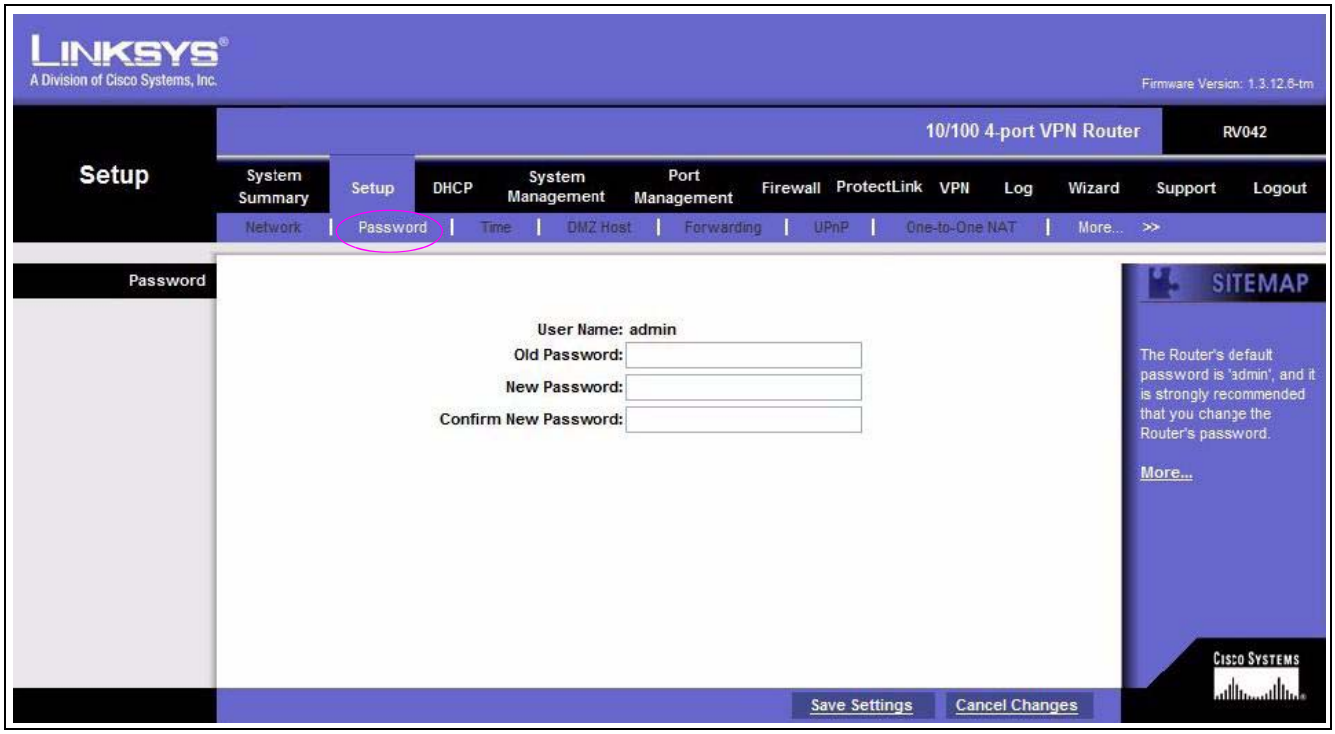
Changing the Firewall Router Password

To change the Firewall Router password, proceed as follows:

IMPORTANT INFORMATION
The password provided is configured by default by Gilbarco. The merchant may choose to change the router password to further adhere with PCI-DSS compliance standards. If the site does not choose to change this password, proceed to step 5. If the site chooses to change this password, it must also be written on the Security Manager report and maintained only by the appropriate site staff. Refer to MDE-4743 Passport PA-DSS Implementation Guide for additional information regarding the Security Manager report.

1 Click the **Setup** tab. Select **Password**.

Figure 12: Setup Window



2 Enter **GVR09RV042** as the Old Password.

3 Allow the site personnel to enter the New Password. It is recommended that all new passwords must be configured as strong according to PCI-DSS guidelines. This would indicate a password to be at least seven characters, including a digit and a special character such as $.

4 Allow the site personnel to confirm the New Password.

IMPORTANT INFORMATION

It is critical that only the approved site personnel enter and confirm the new router password. This will prevent the administrator password from being known by anyone other than approved site personnel. This User Name and Password must be written on the Security Manager report and maintained only by the approved site personnel.

5 Click **Save Settings**.

The Firewall Router Passport password configuration is complete. The router is now configured for use with a basic Passport installation. If additional configuration is required, such as remote access through a WAN or use of dual routers, refer to MDE-4743 Passport PA-DSS Implementation Guide and Appendices A, B, C and D of this document for additional installation recommendations.

IP Address Assignments

Device	IP Address
Passport 10.5.48.X Subnet (255.255.255.192 Subnet Mask)	
RV042 Router – LAN	10.5.48.1
Passport Server	10.5.48.2
Passport RAS	10.5.48.3 – 10.5.48.4
Secondary Router/Hub (if required)	10.5.48.7
DHCP Range	10.5.48.8 – 10.5.48.14
Passport Client 1	DHCP
Passport Client 2	DHCP
Passport Client 3	DHCP
Passport Client 4	DHCP
Passport Client 5	DHCP
(Reserved For Future Use)	DHCP
(Reserved For Future Use)	DHCP
Third-party 10.5.60.X Subnet (255.255.255.192 Subnet Mask)	
Third-party DMZ Router	10.5.60.14
Back Office Server*/File Transfer Protocol (FTP) User	10.5.60.15
Loyalty Server	10.5.60.16
Security Camera Server	10.5.60.17
Secure 10.5.50.X Subnet (255.255.255.252 Subnet Mask)	
Passport Enhanced Dispenser Hub	10.5.50.2
RV042 Router – WAN	Provided by Payment Network or third-party Provider

**For additional details about configuring a Back Office System with Passport V8.02+, refer to MDE-4880 Passport V8.02+ Third-party Partner Device Access Rules.*

IMPORTANT INFORMATION

Failure to configure Passport Clients and third-party devices according to the above mentioned assignments may result in lack of communication and hence a site down condition.

IMPORTANT INFORMATION

The following appendices will be required to complete the router installation and configuration. To ensure proper TCP/IP communication, the procedures outlined within each appendix must be applied to the appropriate situation. Review the networking requirements with the site to determine the most appropriate configuration. Contact Gilbarco Technical Support for additional questions or guidance in these areas.

Appendix	Purpose
Appendix A: Installing an Additional LAN Hub/Switch	May be used when installing more than 2 Clients on the Passport LAN.
Appendix B: Reprogramming a Linksys V3 Router for LAN Expansion	May be used when installing more than 2 Clients on the Passport LAN (10.5.48.X). ~OR~ May be used when installing more than 2 Clients on the third-party DMZ (10.5.60.X) and one of the devices requires an Internet connection (for example, Loyalty Server).
Appendix C: Firewall Router Advanced Routing and Secondary Router Programming for WAN Traffic	May be used when traffic needs to be routed to a WAN location over the Internet port of a secondary router (for example, Loyalty Server is installed at the site).

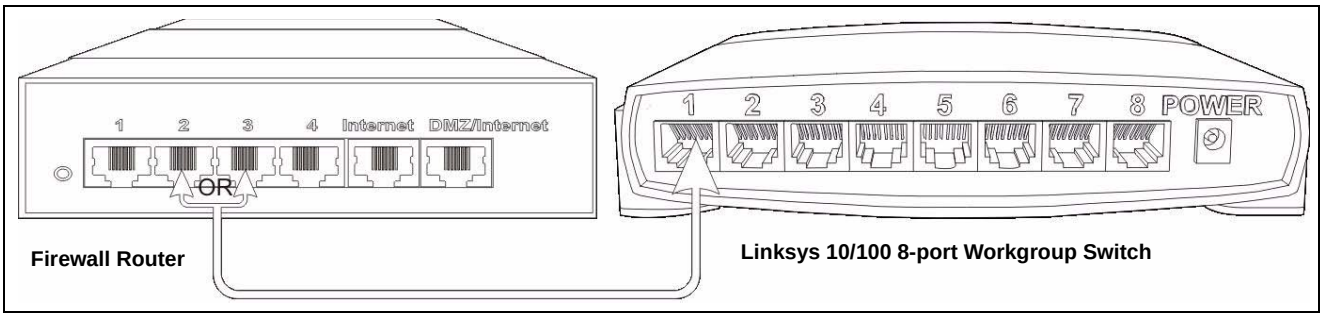
Appendix A: Installing an Additional LAN Hub/Switch

Installing an Additional Hub/Switch on the Passport LAN (10.5.48.X)

When more than two Clients require connection to the Passport LAN, it will be necessary to accommodate additional LAN connections. This procedure must be used to install a Linksys 10/100 8-port Workgroup switch (Q13708-01A) as a LAN expansion device with the Firewall Router.

1. Ensure that both the Linksys switch and Firewall Router are powered on.
2. Connect a CAT-5 Modular Cable (Q13482-XX or Q13850-XX) between Port 1 of the Linksys 10/100 8-port Workgroup Switch and Port 2 or 3 of the Firewall Router.
3. Connect additional Passport Clients to Ports 2 - 8 as required through a CAT-5 Modular Cable (Q13482-XX or Q13850-XX).

Figure 13: Connecting the Firewall Router and LAN Hub/Switch (Passport LAN)



Installing an Additional Hub/Switch on the DMZ (10.5.60.X)

IMPORTANT INFORMATION

An expansion device will be required only if more than one third-party device needs to communicate with the Passport POS system. If only one device requires connectivity to the DMZ, this may be performed by connecting an Ethernet Cable directly between the DMZ port on the router and the DMZ port on the Firewall Router.

The procedures below apply only if there is no requirement for the third-party device to communicate over the Internet. If there is a need for Internet connectivity (for example, Loyalty Servers that send data over the Internet for authorization) then the procedures in "Appendix B: Reprogramming a Linksys V3 Router for LAN Expansion" on page 21 must be followed.

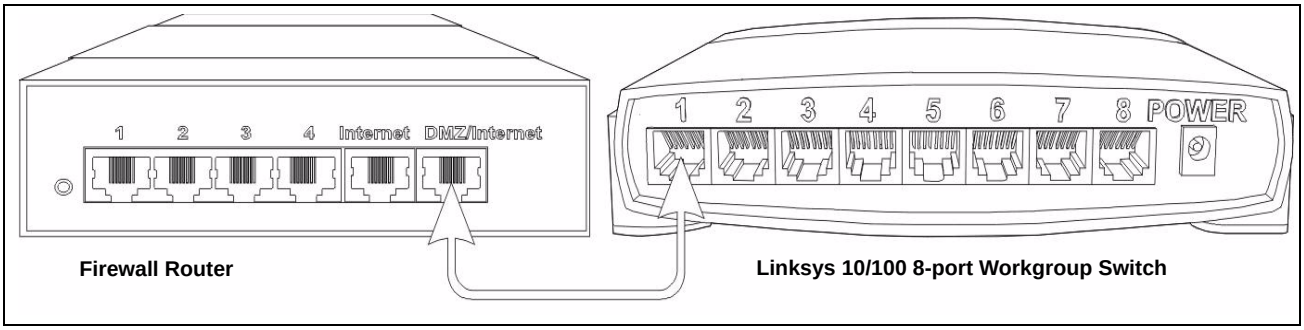
When more than two third-party devices require connection to the DMZ, it will be necessary to accommodate additional LAN connections. This procedure must be used to install a Linksys 10/100 8-port Workgroup Switch (Q13708-01A) as an expansion device on the DMZ.

1. Ensure that both the Linksys switch and Firewall Router are powered on.

2. Connect a CAT-5 Modular Cable (Q13482-XX or Q13850-XX) between Port 1 of the Linksys 10/100 8-port Workgroup Switch and the DMZ Port.

3. Connect third-party devices to Ports 2 - 8 as required, through a CAT-5 Modular Cable (Q13482-XX or Q13850-XX).

Figure 14: Connecting the Firewall Router and LAN Hub/Switch (Third-party DMZ)



Appendix B: Reprogramming a Linksys V3 Router for LAN Expansion

Reprogramming a Linksys V3 Router for Expansion on the Passport LAN (10.5.48.X)

The 8-port Linksys Router may be used as an alternative solution towards accommodating more than four LAN connections for Clients. This procedure must only be used when reprogramming an existing Linksys V3 Router to install as a LAN expansion device with the Firewall Router.

1 Ensure that the laptop is programmed to an IP address of 10.5.48.18.

2 Connect a CAT-5 Modular Cable (Q13482-XX or Q13850-XX) between Port 1 of the secondary router and your laptop's Ethernet port.

IMPORTANT INFORMATION

By default, all Linksys Routers ship with the same IP address. To prevent an IP address conflict, the primary and secondary routers must **not** be connected simultaneously. The only device that must be connected to a communication port on the secondary router is a laptop.

3 Open **Internet Explorer**.

4 In the Internet Explorer address bar, type **http://10.5.48.1** and press **Enter**. The Connect to 10.5.48.1 window appears.
Note: The password is case-sensitive and must be entered as specified.

	User Name	Password
Linksys Router Password	(blank)	admin
	(blank)	GVR2Tech07

Note: The User Name and Password that must be used will depend on when the router was installed. In some cases, both passwords may have to be attempted to determine the appropriate one that must be used at a location.

IMPORTANT INFORMATION

Although the password for the secondary router is not subject to compliance requirements, the merchant may choose to change the router password to strengthen site security. If the site personnel require to change this password, refer to step "Changing the Firewall Router Password" on page 16. Change the password only after the router configuration is complete.

5 Enter the following information in the Network Setup tab in the Setup page of the Router Configuration screen. These settings are required to allow the secondary router to communicate over the Passport LAN.

Field	Value
Local IP Address	10.5.48.7
Subnet Mask	255.255.255.192
Local DHCP Server	Disable
Start IP Address	Not Applicable. *Note: This must be grayed out when Local DHCP Server is set to Disable.*
Client Lease Time	Not Applicable. *Note: This must be grayed out when Local DHCP Server is set to Disable.*
Static DNS 1, 2, 3	0.0.0.0
WINS	0.0.0.0

6 Verify if the programming performed in step 5 is correct. If any information is incorrect, it must be corrected immediately. When complete, proceed to step 7.

7 Click **Save Settings**. If prompted to log on to the router with the new address, click **OK**.

IMPORTANT INFORMATION

Internet Explorer will not automatically return to router Setup page, as the IP address was changed in step 5. Use 10.5.48.14 to access the secondary router's Setup page.

8 If there are no advanced routing requirements, proceed to step 9. If the site has advanced routing requirements, refer to "Appendix C: Firewall Router Advanced Routing and Secondary Router Programming for WAN Traffic" on page 26 for the programming procedure.

IMPORTANT INFORMATION

Verify if there are any additional advanced routing requirements. If there are additional requirements after the secondary router password has been changed, then the appropriate site personnel must obtain access to the router.

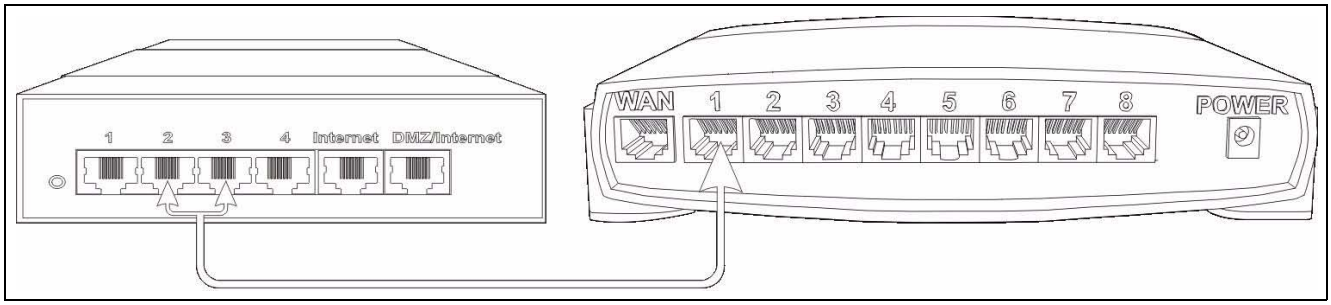
9 In the Internet Explorer address bar, type **http://10.5.48.7** and press **Enter**. The Connect to 10.5.48.7 window appears. Re-enter the appropriate password (provided in step 4). The default password must now be changed.

10 Click the **Administration** tab.

11 Allow the site personnel to enter and confirm the new password in the "Router Password" field.

IMPORTANT INFORMATION
It is critical that only the approved site personnel enter and confirm the new router password. This will prevent the administrator password from being known to anyone other than the approved site personnel.

Figure 15: Connecting the Router and Passport LAN



Reprogramming a Linksys V3 Router for Expansion on the Third-party DMZ (10.5.60.X)

The 8-port Linksys Router may be used as an alternative solution towards accommodating more than one network connection for third-party devices. This procedure must only be followed when reprogramming an existing Linksys V3 Router and install the router as an expansion device on the DMZ.

IMPORTANT INFORMATION
If there is a need for Internet connectivity (for example, Loyalty Servers that send data over the Internet for authorization) then the procedures below must be followed.

1 Ensure that the IP address of your laptop is programmed to 10.5.48.18.

2 Connect a CAT-5 Modular Cable (Q13482-XX or Q13850-XX) between Port 1 of the secondary router and your laptop's Ethernet port.

IMPORTANT INFORMATION
By default, all Linksys Routers ship with the same IP address. In order to prevent an IP address conflict, the primary and secondary routers must not be connected simultaneously. The only device that must be connected to a communication port on the secondary router, is a laptop.

3 Open **Internet Explorer**.

4 In the Internet Explorer address bar, type **http://10.5.48.1** and press **Enter**. The Connect to 10.5.48.1 window appears.
Note: The password is case-sensitive and must be entered as specified.

	User Name	Password
Linksys Router Password	(blank)	admin
	(blank)	GVR2Tech07

Note: The User Name and Password used will depend on when the router was installed. In some cases, both passwords may have to be attempted to determine the appropriate one used at a location.

IMPORTANT INFORMATION

Although the password for the secondary router is not subject to compliance requirements, the merchant may choose to change the router password to strengthen site security. If the site personnel requires to change this password, refer to "Changing the Firewall Router Password" on page 16 and must be performed after router configuration is complete.

5 Enter the following information in the Network Setup tab of the Setup page in the Router Configuration screen. These settings are required to allow the secondary router to communicate over the Passport LAN.

Field	Value
Local IP Address	10.5.60.14
Subnet Mask	255.255.255.192
Local DHCP Server	Disable
Start IP Address	Not Applicable *Note: This must be grayed out when Local DHCP Server is set to Disable.*
Client Lease Time	Not Applicable *Note: This must be grayed out when Local DHCP Server is set to Disable.*
Static DNS 1, 2, 3	0.0.0.0
WINS	0.0.0.0

6 Verify if the programming performed in step 5 is correct. If any information is incorrect, it must be corrected at this time. When complete, proceed to step 7.

7 Click **Save Settings**. If prompted to log on to the router with the new address, click **OK**.

IMPORTANT INFORMATION

Internet Explorer will not automatically return to router Setup page as the IP address was changed in step 5. 10.5.60.14 must now be used to access the secondary router's Setup page.

8 If there are no advanced routing needs, proceed to step 9. If the site has advanced routing needs, perform the programming as detailed in "Appendix C: Firewall Router Advanced Routing and Secondary Router Programming for WAN Traffic" on page 26.

IMPORTANT INFORMATION

Verify if there are any additional advanced routing requirements. If there are additional requirements after the secondary router password has been changed, then the appropriate site personnel must obtain access to the router.

9 In the Internet Explorer address bar, type **http://10.5.60.14** and press **Enter**. The Connect to 10.5.60.14 window appears.

10 Re-enter the appropriate password (provided in step 4).

11 Click the **Administration** tab.

12 Allow the site personnel to enter and confirm the new password in the "Router Password" field.

IMPORTANT INFORMATION

It is critical that only the approved site personnel enter and confirm the new router password. This will prevent the administrator password from being known by anyone other than the approved site personnel.

Appendix C: Firewall Router Advanced Routing and Secondary Router Programming for WAN Traffic

Programming Advanced Routing within the Firewall Router

IMPORTANT INFORMATION

If there is a need for Internet connectivity (for example, Loyalty Servers that send data over the Internet for authorization) then the procedures below must be followed.

The Firewall Router manages communication to the various Passport devices (the Passport Server, Clients, Enhanced Dispenser Hub, and so on). This router will be set to use the IP address 10.5.48.1. This router requires a static route to the Internet/WAN interface on the secondary router through its LAN ports.

IMPORTANT INFORMATION

Before beginning this procedure, connect the device that you will use to configure the router as follows:
- If the Passport Server is used, connect it to Port 1 of the Firewall Router.
- If a laptop is being used, connect it to Port 1 on the Firewall Router. The IP address of your laptop must be programmed as 10.5.48.18.

1. Open **Internet Explorer**.
2. In the Internet Explorer address bar, type **http://10.5.48.1** and press **Enter**. The Connect to 10.5.48.1 window appears.
   Note: The password is case-sensitive and must be entered as specified.
3. Enter the User Name and Password.
4. Select **Setup > More > Advanced Routing** from the Router Configuration screen.
5. Ensure that the following Advanced Routing settings are set.

	Working Mode	Gateway
Dynamic Routing	RIP	Enabled
	Receive RIP Versions	RIPv1
	Transmit RIP Versions	RIPv1

6 The Static Routing section has to be programmed. These settings are required to route traffic appropriately to the required external WAN destination:

Field	Value
Destination IP Address	xxx.xxx.xxx.xxx *Note: This address must be provided by the third-party who will receive the TCP/IP traffic.*
Subnet Mask	yyy.yyy.yyy.yyy *Note: This subnet mask must be provided by the third-party who will receive the TCP/IP traffic.*
Gateway (Secondary Router IP)	10.5.60.14
Hop Count	1
Interface	WAN2/DMZ

7 Ensure that the programming performed in steps 5 and 6 is correct. When complete, proceed to step 8.

8 Click **Add to List**.

9 Click **Save Settings**.

10 Click **Logout**.

11 Click **Yes**, if prompted to close the window.

The Advanced Programming of the primary router is complete.

Programming the Secondary Router

The secondary router may be connected to the Internet through a broadband or high-speed provider.

IMPORTANT INFORMATION

Before beginning this procedure, ensure that a laptop is connected to Port 1 of the secondary router. The IP address of your laptop must be programmed as 10.5.60.18.

1 Open **Internet Explorer**.

2 In the Internet Explorer address bar, type **http://10.5.60.14** and press **Enter**.

3 Enter the User Name and Password for the secondary router.

4 In the Internet Setup – Internet Connection Type section of the Setup page, ensure that the Internet Connection Type is configured with a static IP address as specified by the site's Internet Service Provider (ISP).
Note: As the requirements for each service may vary, contact the ISP directly to obtain the required settings for communication to the Internet.

5 Obtain the ISP-provided information regarding the appropriate cable connection (Straight-through Cable vs. Crossover Cable) between the secondary router's Internet Port and the site's Internet device (broadband modem, and so on). This connection information will be required later.

6 Ensure that the programming performed in step 4 is correct. When complete, proceed to step 7.

7 Click **Save Settings**. The Internet Explorer will automatically return to the Router Setup.

8 Click **Log out** and close the Internet Explorer window. If a laptop is used for router configuration, then disconnect the laptop.

9 Connect a CAT-5 Cable between Port 1 of the secondary router and the DMZ port on the Firewall Router.

10 Access the Command Prompt from the Passport Manager Workstation.

11 In the Command Prompt window, ping 10.5.60.14. If the ping is successful, installation and configuration is correct and you may proceed to step 12.

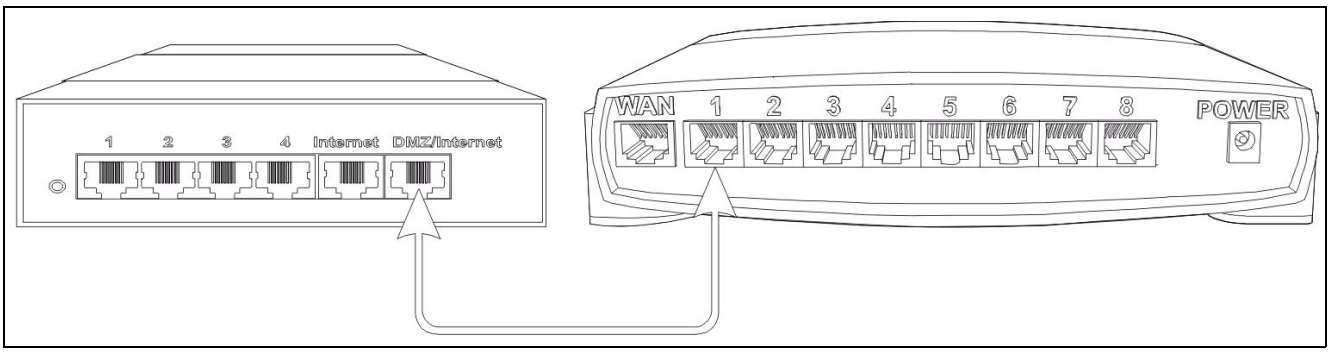
If you are unable to ping the secondary router, then repeat the steps provided in "Reprogramming a Linksys V3 Router for Expansion on the Third-party DMZ (10.5.60.X)" on page 23. Contact Gilbarco Technical Support for troubleshooting the communication failure.

12 Connect an Ethernet Cable between the Internet port on the secondary router and the site's Internet device (broadband modem, switch, Ethernet jack, and so on) as specified by the ISP in step 5.

13 In the Command Prompt window, ping the destination IP address.
Note: This is the IP address entered in the static route in step 5 of "Programming Advanced Routing within the Firewall Router" on page 26.

14 If the ping is successful, installation and configuration is correct. If you are unable to ping the destination IP address, then contact the site's ISP to validate the internet connectivity. Contact Gilbarco Technical Support for additional assistance.

Figure 16: Connecting the Router to Third-party DMZ



The configuration and installation of the dual-router environment is complete.

Appendix D: Customer-specific Access Programming

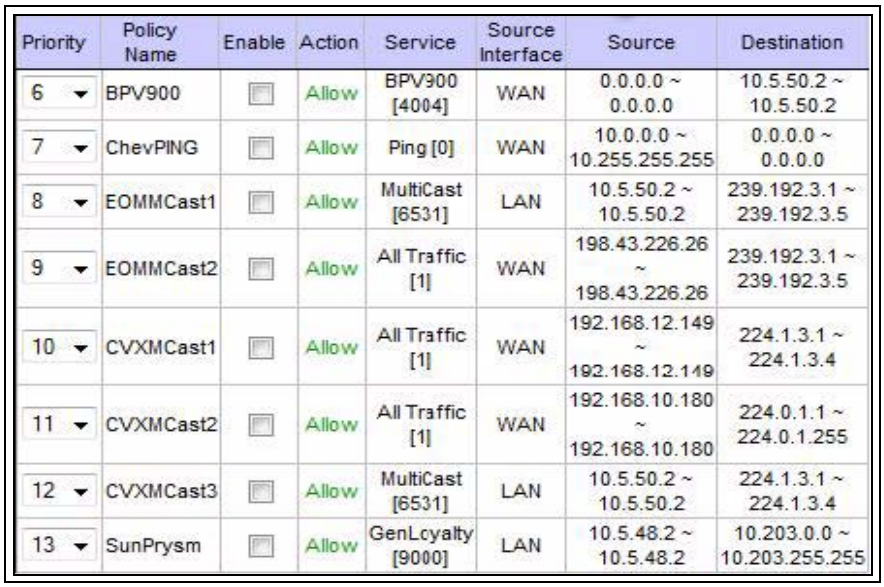
When programming the RV042 Router, the following customer-specific changes must be completed.

Access Rules

Customer access rules have been created based on specific customer requirements and must be enabled only when required.

To modify customer access rules, select **Firewall** > **Access Rules**. A screen as in Figure 17 appears.

Figure 17: Access Rules



Priority	Policy Name	Enable	Action	Service	Source Interface	Source	Destination
6	BPV900	☐	Allow	BPV900 [4004]	WAN	0.0.0.0 ~ 0.0.0.0	10.5.50.2 ~ 10.5.50.2
7	ChevPING	☐	Allow	Ping [0]	WAN	10.0.0.0 ~ 10.255.255.255	0.0.0.0 ~ 0.0.0.0
8	EOMMCast1	☐	Allow	MultiCast [6531]	LAN	10.5.50.2 ~ 10.5.50.2	239.192.3.1 ~ 239.192.3.5
9	EOMMCast2	☐	Allow	All Traffic [1]	WAN	198.43.226.26 ~ 198.43.226.26	239.192.3.1 ~ 239.192.3.5
10	CVXMCast1	☐	Allow	All Traffic [1]	WAN	192.168.12.149 ~ 192.168.12.149	224.1.3.1 ~ 224.1.3.4
11	CVXMCast2	☐	Allow	All Traffic [1]	WAN	192.168.10.180 ~ 192.168.10.180	224.0.1.1 ~ 224.0.1.255
12	CVXMCast3	☐	Allow	MultiCast [6531]	LAN	10.5.50.2 ~ 10.5.50.2	224.1.3.1 ~ 224.1.3.4
13	SunPrysm	☐	Allow	GenLoyalty [9000]	LAN	10.5.48.2 ~ 10.5.48.2	10.203.0.0 ~ 10.203.255.255

Proceed with the changes in the following table.

Applies To	Policy Name	Action Needed
Third-party Rules		
All customers with third-party devices (for example, Back Office, Loyalty, IP-based Security Camera Interface)	3rdPtyLAN	Select **Enable**. Change will be saved automatically.
All customers with a third-party Back Office System using a FTP on the DMZ	BOSFTP	Select **Enable**. Change will be saved automatically.
All customers with a third-party Back Office System using a Windows File Share over the DMZ	BOSShare	Select **Enable**. Change will be saved automatically.
All customers connecting to Passport through FTP over a WAN interface	WANFTP	Select **Enable**. Change will be saved automatically.

Applies To	Policy Name	Action Needed
TCP/IP Credit/Debit Network Rules		
All customers using a TCP/IP network for credit/debit processing	WAN2EDH	**1** Click **Edit** beside the rule. **2** Ensure that **Source IP** to is set to Single. **3** Set the **Source IP Address** to the Default Gateway Address. (This takes the value B as in step 6 in "Configuring the Firewall Router" on page 6). **4** Save the settings.
All customers using a TCP/IP network for credit/debit processing	EDH2WAN	**1** Click **Edit** beside the rule. **2** Ensure that **Destination IP** to is set to Single. **3** Set the **Destination IP Address** to the Default Gateway Address. (This takes the value B as in step 6 in "Configuring the Firewall Router" on page 6). **4** Save the settings.
Software Download Rules		
Chevron®	CVXMCast1 CVXMCast2 CVXMCast3	Select **Enable** (for all rules). Change will be saved automatically.
ExxonMobil®	EOMMCast1 EOMMCast2	Select **Enable** (for both rules). Change will be saved automatically.
Network Ping Rules		
BP®, Chevron, and ExxonMobil	Disable Block WAN Request	**1** Navigate to the **Firewall > General** **2** Set **Block WAN Request** to Disable. **3** Save the settings.
Chevron	ChevPING	**1** Select **Enable**. **2** Click **Edit** beside the rule. **3** Ensure **WAN IP Address** to is set to Single. **4** Set the **WAN IP Address** to the Default Gateway Address. (This takes the value B as in step 6 in "Configuring the Firewall Router" on page 6). **5** Save the settings.
Network Specific Rules		
BP	BPV900	Select **Enable**. Change will be saved automatically.
	NetOpUDP2	Select **Enable**. Change will be saved automatically.
	NetOpTCP2	Select **Enable**. Change will be saved automatically.
ExxonMobil	WAN2FTP	Select **Enable**. Change will be saved automatically.
Sunoco®*	SunPrysm	Select **Enable**. Change will be saved automatically.

**Applies only to Sunoco locations that have a Prysm system connected to the WAN port on the router.*

Applies To	Policy Name	Action Needed
WAN Support		

IMPORTANT INFORMATION

Remote Support access rules are required **only** for customers where Gilbarco is performing remote support through WAN. For dial-in supported sites these access rules must **not** be enabled.

Applies only to non-BP locations where Gilbarco is performing remote support through WAN.	NetOpUDP	Select **Enable**. Change will be saved automatically.
	NetOpTCP	Select **Enable**. Change will be saved automatically.
	WANSiteCo	Select **Enable**. Change will be saved automatically.
	RDP2EDH2	Select **Enable**. Change will be saved automatically.

UPnP Forwarding Rule - BP Only

The following change must be made at BP sites only:

From the **Setup** tab, select **UPnP** and proceed as follows:

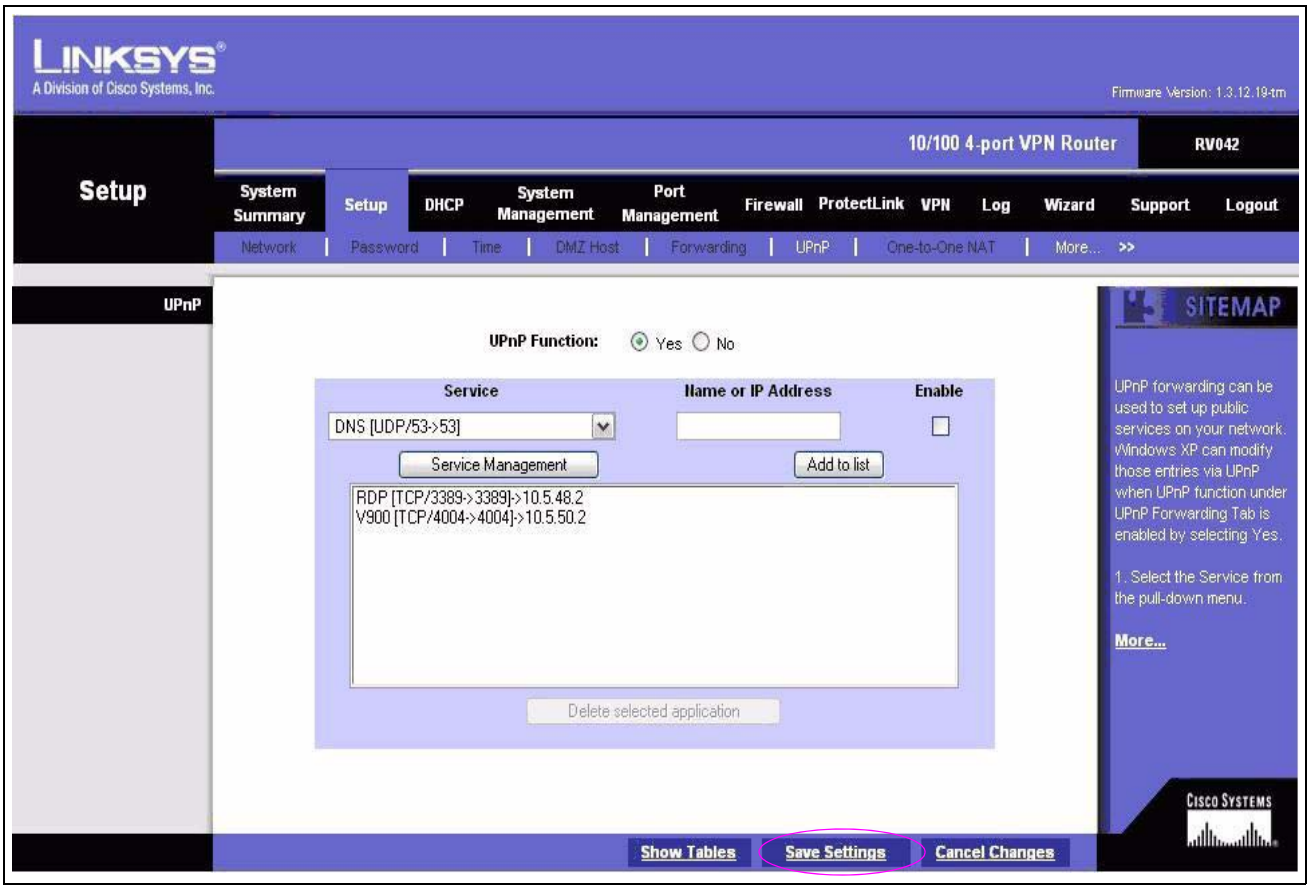
a Select the BPV900 rule.

b Select the Enable box.

c Ensure that the “Name or IP Address” field shows 10.5.50.2. If the value is not 10.5.50.2, update this field.

d Click **Save Settings**.

Figure 18: Setup Tab for UPnP Forwarding Rule - BP Only



Appendix E: Troubleshooting the Firewall Router

Symptom	Potential Cause	Recommended Troubleshooting
Unable to communicate on the LAN.	• Disabled Port • Lack of DHCP reservation • Connectivity issue • Error in firewall access rule configuration	• Attempt to ping the router from the impacted device. • From another device (for example, laptop) access the router setup screen. • From the System Summary screen, verify if the port that the impacted device is connected to, is shown as green. **a** Red indicates that the port is disabled. It may be enabled through the Port Management tab. **b** Black indicates that the port is enabled but there is no connectivity between the Ethernet adapter and the LAN Port. • Check the cable connections and hardware. • If the impacted device is a Passport Client, access the DHCP tab. **a** Verify that DHCP is enabled. **b** Verify that the start and end addresses in the DHCP range include enough space for all the Clients. • Contact Gilbarco Technical Support to further investigate potential errors in programming and firewall rule configuration.
Unable to communicate with Enhanced Dispenser Hub/Forecourt devices.	• Disabled Port • Connectivity issue • Error in firewall access rule configuration	• From the Server, access the router setup screen. • From the System Summary screen, verify that Port 4 is shown as green. **a** Red indicates that the port is disabled. It may be enabled through the Port Management tab. **b** Black indicates that the port is enabled but there is no connectivity between the Ethernet adapter and the LAN Port. • Check the cable connections and hardware. • Contact Gilbarco Technical Support to further investigate potential errors in programming and firewall rule configuration. A spare keyboard and monitor may be required to perform troubleshooting locally on the Enhanced Dispenser Hub.

Symptom	Potential Cause	Recommended Troubleshooting
Unable to communicate on the WAN	• Disabled Port • Error in IP address programming • Connectivity issue • Error in firewall access rule configuration	• Attempt to ping the satellite device from the Passport Server. **a** If unsuccessful, access the router System Summary screen and ensure that the WAN Port is shown as green. - Red indicates that the port is disabled. It may be enabled through the Port Management tab. - Black indicates that the port is enabled but there is no connectivity between the Ethernet adapter and the LAN Port. IP address programming, cabling, and hardware must be further investigated. **b** If successful, verify that the TCP/IP Credit/Debit Network Rules are programmed properly. • Contact Gilbarco Technical Support to further investigate potential errors in programming and firewall rule configuration.
Unable to communicate between POS and third-party device (Back Office, Loyalty Server, IP-based security camera).	• Disabled Port • Error in IP address programming • Connectivity issue • Error in firewall access rule configuration	• Attempt to ping the Back Office device from the Passport Server. **a** If unsuccessful, access the router System Summary screen and verify that the DMZ Port is shown as green. - Red indicates that the port is disabled. It may be enabled through the Port Management tab. - Black indicates that the port is enabled but there is no connectivity between the Ethernet adapter and the LAN Port. IP address programming, cabling, and hardware must be further investigated. **b** If successful, ensure that the third-party rules are programmed properly. • Contact Gilbarco Technical Support to further investigate potential errors in programming and firewall rule configuration.

Symptom	Potential Cause	Recommended Troubleshooting
Unable to access router for configuration	• Connectivity issue • Corruption in router memory • Hardware issue	• By default, only Port 1 and Port 4 will be active. Ensure that the device used to program the router is connected to Port 1. • Verify the IP address programming on the device used to program the router. (If using a laptop, verify settings as shown in "Configuring Your Laptop" on page 3). • Replace the Ethernet Cable between the device and the router. • If device programming is correct, reset the router by holding in the circular button on the rear of the Firewall Router for approximately 20 seconds*. **a** Obtain a backup router configuration file from the site or a current factory configuration file from Gilbarco Technical Support. **b** Program your laptop as follows: - IP address: 192.168.1.2 - Subnet Mask: 255.255.255.192 - Default Gateway: 192.168.1.1 • Open Windows Explorer on your laptop and access 192.168.1.1. (Use **admin** as the User Name and Password.) • Navigate to **System Management** > **Setting Backup**. • Import the site's backup router configuration file or Gilbarco's current factory configuration file. • Use the Password and User Name as provided on page 7 of this document to restore the configuration file. • If you are unable to access the router after performing a reset, this may indicate a hardware issue. Contact Gilbarco Technical Support for further troubleshooting.

**This process will reset the router to Linksys default value. It must only be performed at the direction of Gilbarco Technical Support.*

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7300 West Friendly Avenue · Post Office Box 22087
Greensboro, North Carolina 27420
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